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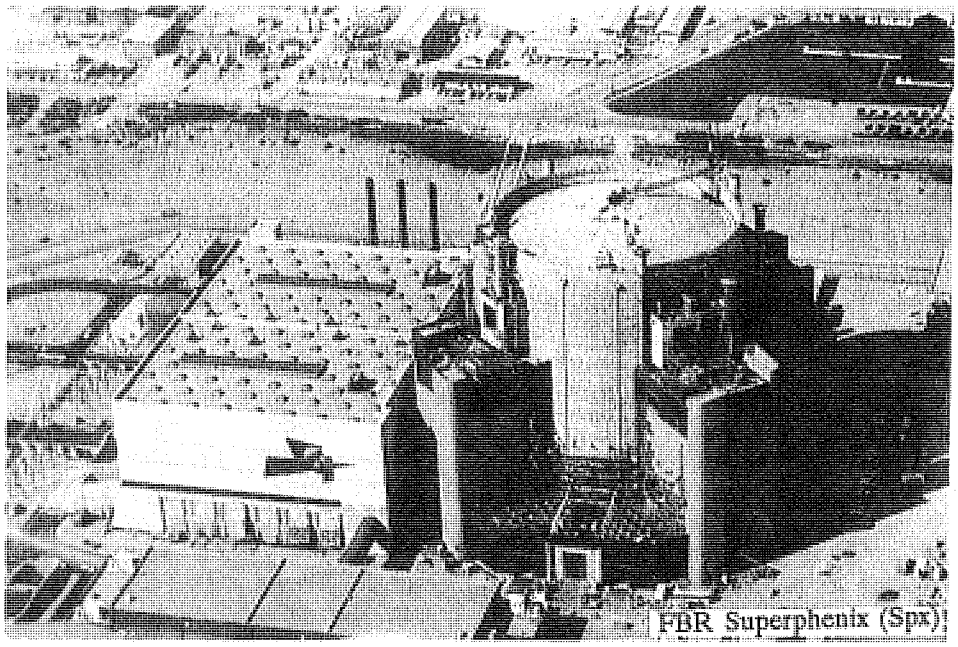
French Decision Shakes Japanese Plutonium Industry



FBR Superphenix (Spx)

IN THIS ISSUE

The French government's decision not to restart the FBR Superphenix (Spx) was an epoch-making event which should also have a large impact on the Japanese nuclear industry. But the story got little coverage from the Japanese news media, while the government and nuclear industry officials feigned indifference. PNC (Power Reactor and Nuclear Fuel Development Corp.) officials commented that their own FBR project Monju, which is scheduled to start

next spring, would not be affected by the French decision because the difficulties with Spx are mainly due to intrinsic maintenance problems and also because the loop-type Monju is structurally different from the pool-type Spx.

Actually PNC was nervously waiting for the French decision, hoping that Spx could be restarted. The decision came about one week later than generally expected. During this period, officials were desperately trying to get hold of all the information they could, so as to be prepared at any time to comment that their program would not be affected even if the decision was "No." In spite of their comments, however, the French decision has a direct bearing on Monju, and they know this all too well.

For one thing, the decision not to restart Spx was based on the safety report prepared by M. Laverie, chief of DSIN (Division de la Surete des Installations Nucleaires) and the report raises serious doubts as to the safety of FBRs in general. The "weaknesses and uncertainties" that Laverie points out concerning Spx are mainly related to the following three points:

(1) the difficulty of controlling core reactivity
(2) the potential danger of a sodium fire, particularly in the secondary sodium circuit
(3) the difficulty of inspecting the inside of the reactor vessel and steam generators.

These are problems common to all types of FBR and thus weaknesses of Monju as well.

It should be noted that the French decision seems also to be related to the prospect of a world "plutonium surplus" problem. In an age of surplus plutonium, it does not make sense to breed plutonium in a FBR. NERSA, the owner of Spx, decided three years ago to remodel the reactor from a breeder to a non-breeding fast reactor. It can be said that the recent French decision on Spx has accelerated this policy shift from breeding to non-breeding in France. Germany's decision last year to abandon the almost-completed SNR-300 FBR also came years after remodelling it to a non-breeder. In this context it is interesting to note that talks on the future remodelling of Monju to a non-breeding fast reactor have just begun in Japan (see NIT No.29).

Ten days after the French decision, the Mainichi Shimbun, one of the national daily newspapers, reported that PNC had decided to convert the ATR (advanced thermal reactor) Fugen, a heavy-water moderated light-water cooled converter reactor of Japanese design which partly uses MOX as fuel, into a dedicated plutonium burner. This may be regarded as further evidence that the Japanese government now admits Japan is going to have a large plutonium surplus, as we have repeatedly pointed out. But the decision sounds very strange in the light of the fact that the government and PNC have always claimed until very recently that "we need to breed plutonium for Japan's energy self sufficiency and we must also have plutonium from Europe because without it we face a shortfall for fueling Japan's R & D plutonium projects."

The decision to use Fugen as a plutonium burner probably reflects the change of perception which is slowly taking place inside the Japanese nuclear industry about the plutonium surplus, but the decision has apparently been expedited by the French decision on Spx. Hence the "death of Spx" is already affecting Japan's plutonium policy.

Anyway, Japan is obviously going to face a large surplus of plutonium as the government itself now admits, and we would like here again to stress that there is no need for plutonium to be shipped back from Europe, even if the dangers of shipments can be minimized.

Stop Plutonium Transport

Yurika AYUKAWA

With the X-Day for the first shipment of plutonium fuel for the fast breeder reactor (FBR) Monju getting closer, and tension heightening, we received the information that the plutonium carrier vessel docked in Yokohama (the former Pacific Crane) was soon to leave the port for France. In the subsequent confusion of mixed information, we found out that it had actually left the harbor on June 30 for a training cruise and is to come back in a month or so. However, we eventually established that its new name is AKATSUKIMARU and that it was registered under SEA BIRD CO., of Tokyo in May.

Our opinion ad to stop the plutonium transport from Europe to Japan had been published in the New York Times on June 2, causing a stir among the American public. In order to inform the public further as to why we placed the ad, I visited Washington D.C. together with Ms. Aileen Smith of Plutonium Action Kyoto, held a press conference, and visited people in Congress as well as the State Dept. and Dept. of Defense.

We stayed only a week, but were able to meet 11 aides to House and Senate representatives, who showed great interest in this issue, and in the Abercrombie amendment. The visits to the DOD and the State Dept. were especially impressive. We were able to meet directly with the people in charge of this plutonium transport. Both departments said they did not intend to go back to the 1987-88 negotiation of the New Japan-US Nuclear-Cooperation Treaty and discuss the Japanese plutonium program. All they were interested in was whether the transport plan was adequate from the safety and security point of view. Here, they said they were totally satisfied with the Japanese plan and could give approval any day.

"There will be no emergency port-calls since no emergency will arise," they declared, and they have "not contacted any country en route" nor do they intend to. It was exactly the same phrase as was quoted by the Science & Technology Agency of Japan.

However it was disclosed at the end of June that there had actually been "emergency port calls" by some of the spent nuclear fuel carriers. Although British Nuclear Fuels deny the calls, they have been confirmed by Kyodo News Agency through port authorities' internal documents and from the testimony of dock workers. According

[A GROWING THREAT TO GLOBAL SECURITY]

JAPAN'S DANGEROUS NUCLEAR BUILD-UP

The greatest long-term threat to nuclear disarmament and non-proliferation efforts worldwide is no secret to U.S. officials.

It is Japan's reckless plutonium policy.

Japan is recycling U.S.-supplied and controlled atomic fuel into plutonium suitable for nuclear weapons. Unless this policy is changed, Japan's civil nuclear program will accumulate more nuclear bomb material than any military in the world.

We are concerned Japanese citizens. We are protesting all across our country.

But we have yet to make our government or nuclear industry giants including Hitachi, Toshiba and Mitsubishi listen to reason.

This is the decisive year. The U.S. still has the power to stop all this. *Please take action.*

[This is Nagasaki after a plutonium bomb. You see the past. We see the future. The world already has too much plutonium. Nobody needs to make any more of it. According to atomic physicists, a mere 10 lbs. of plutonium missing from a Japanese stockpile announced in June would give terrorists all they need to make a nuclear bomb.]

The first part of a one-page ad in the New York Times, June 2, 1992

to the documents, there were 11 shipments in the fiscal year 1989, and in 1 case, a shipment had to be diverted around the Cape of Good Hope because of political tensions in Panama. In another case, the ship had to make an emergency port call in Bermuda because of some trouble in the engine room, and the call was reported extensively in the local newspaper. In 1990, there were 9 shipments with 3 emergency port calls in Honolulu, Hawaii due to accidents and sickness.

Armed with this new information and the new name of the plutonium carrier vessel, I flew to the Solomon Islands at the beginning of July for the 23rd South Pacific Forum, attended by the heads of the 15 Forum member countries. We had received the information that the plutonium shipments would be on the agenda and it was vital that I go.

CNIC had received many replies and inquiries from various governments, including South Africa, Micronesia, Northern Marianas, Hawaii, Mauritius, Kiribati, Italy and Venezuela, as a result of the letter writing campaign to countries en route that we had started at the end of April. We had also visited the Embassies of Zaire and the Philippines to give them more detailed briefings on the issue. And we had received news coverage of the issue from Guam, Northern Marianas, Philippines, Indonesia, and Portugal.

The Governor of Hawaii had made a statement condemning the shipments, saying "The Federal Administration appears to have given much more thought to possible terroristic action than they have to the environment. I don't think they understand that the ocean connects, feeds, and supports all island people." The Western Governors' Association also held a meeting in mid June and passed a resolution prohibiting all transport of materials whose safety cannot be assured. The Governor of Northern Marianas has shown great concern and sent 10 delegates to the State Dept. but returned with more questions. He says in an interview that "what I am not so happy about is that there will be no one government to ensure financial assistance to the Commonwealth of Northern Mariana Islands if anything goes wrong."

The plutonium shipment issue was not originally on the agenda of the South Pacific Forum, but because of the great concern expressed by Nauru and Micronesia, and shared by all the Forum members, the Forum decided to send a letter of grave concern to the Japanese government. The Nauru President is quoted in the Courier Mail of Australia (July 11) as having proposed that any nation shipping toxic substances across the Pacific be made liable for damages.

However, the text of the communique issued by the Forum states only that 'the Forum expresses its concern that the shipments be made in accordance with the highest international safety and security standards (which means the IAEA standards which the Japanese government claims to meet)' and 'The Forum has urged Japan to consult fully with Forum countries regarding the proposed shipments.'

Despite the watered-down text, the fact that the issue was included in the communique under the new heading "Plutonium Shipments," and also included under the heading "Nuclear Liability" specifically stating 'including the sea transport of plutonium,' shows how deeply concerned the South Pacific countries really are. Since Japan is the major aid donor for the Forum, and Japan's economic relations with the Pacific countries are increasing, they were unable to speak out more straightforwardly.

It is our responsibility and obligation as Japanese citizens to voice grave concern not only for those countries who cannot speak out for fear of losing favor with Japan, but for ourselves, faced with a growing stockpile of plutonium in our own country.

International Symposium on Chernobyl Held at Minsk

Mikiko WATANABE

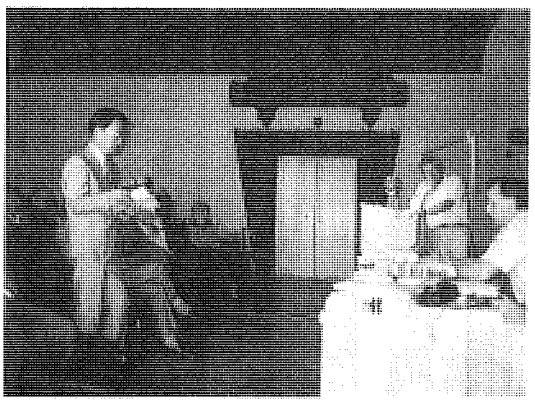
A Belarus-Japan International Symposium on the Consequences of the Chernobyl Accident was held at Minsk from June 29 to July 1. J. Takagi and I, of CNIC, took part in the symposium together with the other scientists and activists from Japan. The symposium was organized by Y. Fujita of Keio University in cooperation with M. F. Egorov of the Peace Fund of Belarus, to assess the environmental and health consequences of the Chernobyl nuclear power plant accident and to discuss possible measures for minimizing the adverse effects.

Belarussian scientists reported on various aspects of the environmental and health effect studies now being conducted extensively in the country, while Japanese speakers, including scientists, physicians and an A-bomb survivor, reported on the results of studies of A-bomb radiation exposure and the sufferings experienced by the survivors.

Among the Belarussian speakers, I. Matveenko of the Belarus State Department for Hydrometeorology reported on a new effort to reproduce the iodine-131 surface contamination map. Although thyroid exposure to I-131 was very serious immediately after the accident, no exact map had been drawn up. Scientists at the Belarus State Cancer Center predict, based on the new map, that there will be 300 to 500 excess thyroid cancers annually among the children of Belarus for years to come. L. Boltokevitch of the Institute of Radiobiology reported on her follow-up study of functional changes in immunocytes which inhibit cancer cells. The study suggests a tendency toward reduced immunocyte activity among Belarussian people 6 years after the accident, which may lead to an increase in the incidence of cancer.

E. Petraev's study of the behavior of cesium and strontium in the soil is also important in that it shows persistent retention of these nuclides in the soil. According to his study, cesium and strontium remain in the top 5 cm layer of the soil very stably for a long period of time - possibly with effective half lives much longer than previously estimated, thus aggravating the exposure of the inhabitants of contaminated areas.

At the end of the symposium, the participants agreed to the proposal of E. F. Konoplya of the Institute of Radiobiology, Belarussian Academy of Sciences, to issue a joint statement. The statement stresses the risk of low level radiation, confirms the need for closer cooperation between scientists of the two countries to overcome the difficulties caused by the Chernobyl accident and criticizes last year's IAEA report on Chernobyl for its underestimation of the severity of the consequences. It also includes our common wish for a world-wide nuclear phase-out.



Series 4: Japan's Nuclear Power Industry
Bleak Future for Nuclear Reactor Manufacturers

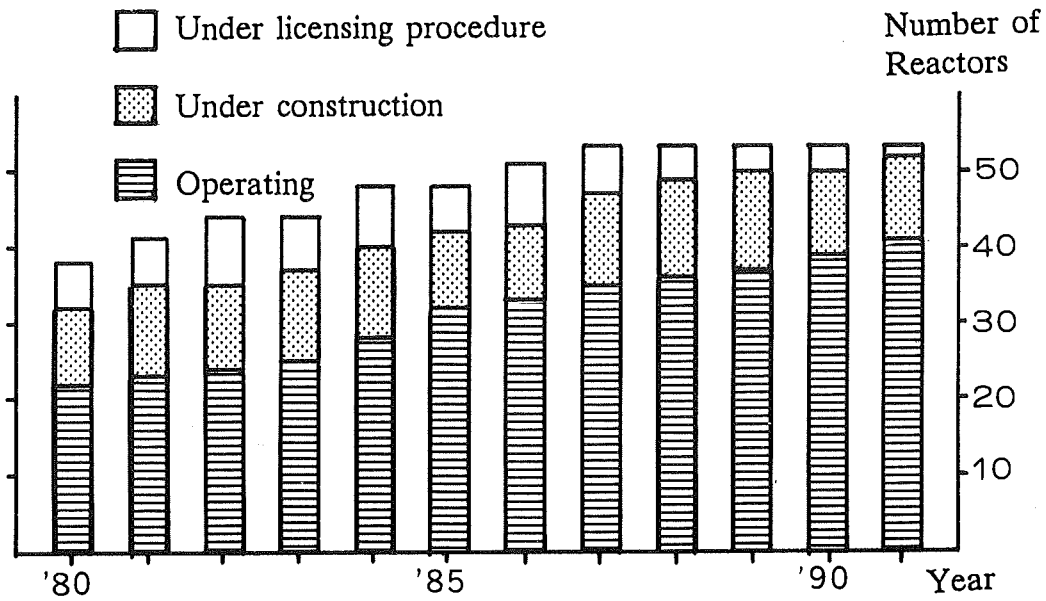
Japan's nuclear reactor manufacturers presently have no prospects for plans to build new reactors, leaving the industry to keep itself busy building those already planned. Thus manufacturers now face the prospect of no hope for orders at all. And with only a few unfilled orders remaining, their hour of death approaches.

Although the manufacturers stress that this is a "valley" and not "the hour of death," there is no mountain in sight beyond the valley. To the electric power companies, nuclear power plant construction is no longer a very attractive option, and they show little enthusiasm for moving ahead with it. What's more, even if the electric companies did have a strong desire to build more nuclear plants, they would have a hard time doing so in the face of the powerful opposition movement.

The precipitous decrease in the number of students hoping for employment with nuclear reactor manufacturers is another clear indicator that this industry is ready to breathe its last. A major reason given for students' unwillingness to take jobs with these companies is "no future promise." For this reason the Japan Atomic Industrial Forum, Inc.'s Committee on the Problem of Securing Personnel Resources put together a report in March which, among other things, calls on the government to manifest a long-term vision for the nuclear industry. But even if the government were to play the fiddle, it is inconceivable that the electric companies and citizens would begin dancing.

The reactor manufacturers are trying to cope with this situation by shifting the weight of their work from the design and building of nuclear reactors to nuclear waste disposal and plant maintenance, and by moving into sectors other than nuclear power.

Nuclear Plant Construction



First Batch of Plutonium Fuel Transported

Hideyuki BAN

The first batch of plutonium fuel was transported to the fast-breeder reactor (FBR) Monju from the afternoon of July 6 to the early morning of July 7, despite widespread anxiety and protest, and in disregard of a petition which condemned the Power Reactor and Nuclear Fuel Development Corporation (PNC) and the municipal authorities along the transport route. Though the media gave extensive coverage to the event, it was never publicly announced.

It was only when PNC was pressured by strong objections from residents in Fukui that we were able to find out the date of the shipment. Meanwhile we had put PNC's fuel assembly plant in Tokai under round-the-clock surveillance.

In a very tense atmosphere, the four-truck convoy carrying the plutonium fuel came out of the gate at 2:05 p.m., accompanied by 2 security vehicles. As it started the 15-hour trip to Fukui, 600 km away, it was greeted by about 30 protesters, who immediately gave chase, and stuck to the convoy all the way.

The cavalcade ran through the heart of Tokyo at 5:55 p.m., amid a chorus of objection from the protesters who must have been visible to the drivers of the trucks carrying the plutonium fuel. Heavy traffic made it difficult for the caravan to stay together, as other cars cut in between the trucks.

At each service area on the expressway, protesters appealed to motorists about the dangers of plutonium transport, and were well received. Around 4:50 a.m. the following morning, the caravan arrived at the Monju site and vanished through the PNC gates amid the protests of more than 100 demonstrators.

The shipment contained 24 fuel assemblies, with 170 kilograms of plutonium. Casks are said to meet the most stringent safety standards, but these standards only allow casks to sustain falls of 9 meters or temperatures of 800°C for a period of 30 minutes. What would happen if the trucks fell off the highway or were trapped in a fire in a tunnel? Such an accident would cause heavy casualties and exposure to radiation and the whole area would have to be fenced off for the rest of history. No protective countermeasures can be taken since residents and municipal authorities along the route are not to be informed, and will be unable to adequately cope with a possible accident. The more we think about it, the more our fears increase. A total 9 shipments, including 198 assemblies, are scheduled to take place this year. If Monju is forcibly started up, shipments will take place once every six months, transporting 40 assemblies at a time.

With the shipment of plutonium fuel on July 6, Japan can be said to have taken its first step into a new era of plutonium utilization. In other words, the nuclear fuel cycle has reached the stage where it is just a dirty cycle with no future. However, the world trend actually presages the "death" of Monju, since the French government decided on June 29 to give up the plutonium cycle by shutting down its FBR Superphenix, now said to be a second Concorde.

You cannot keep on dreaming when everybody else has woken up.

Anti-Nuke Who's Who

Kei Shimada is a photographer engaged in recording the village life of Rokkashomura, where the nuclear fuel cycle facilities are to be constructed. Shimada knew nothing about nuclear power plants until the Chernobyl accident, but learned a lot in its aftermath, including the fact that a 'nuclear fuel cycle base' was to be built in Rokkashomura. Everything was new to her, but curiosity brought her to visit Rokkashomura and see for herself what was really happening. After this, she revisited the village many times, staying longer and longer, and took some vivid pictures of the people's everyday lives, producing her first book, 'Life, Nuclear Fuel Cycle Facility and Rokkashomura' in 1989. In autumn 1990, Shimada actually moved to Rokkashomura to help the anti-nuclear movement from the inside. In fact she has completely devoted herself to the opposition movements within the village, and is now preparing for her second book, a collection of photographs of the four seasons in the village. We greatly look forward to its publication.

Q: What led you to live in Rokkashomura?

A: At the time, the historic gubernatorial election of 1991 was approaching, and uranium hexafluoride was to be transported to the uranium enrichment plant in Rokkashomura in the autumn of 1991. 1991 was certainly a crucial year both for the nuclear industry and for the opposition. So I really wanted to be there at the scene of this historic moment, and take photographs of actual developments.

Q: Now that you have settled in, what do you think of the people in this village?

A: I attracted more attention from Japan Nuclear Fuels Ltd. than I expected. I hardly thought that a mere camerawoman like me would be that noticeable. They really tried to stop me moving in and interfere with my activities. As to the people of the village, I felt their warm welcoming hearts from the beginning, before I really started living here. I feel it even stronger now, but at the same time I have come to understand their other sides as well. They are warm-hearted, but they have given up opposing the government's plan, because they know they can never win. They are very passive and wait for other people to act, whether in development or in opposing it. They need money, and I realize now that is the one reason they accepted the nuclear fuel cycle facilities.

Q: What do you want to do in the future?

A: I'd like to continue doing my real work, which is to take photographs and gather materials for my second book. That is the main reason why I came here.

(K. Kikukawa)

NEWS WATCH

Mitsubishi's ARE Ordered to Close

A Malaysian court on July 11 ordered Mitsubishi Kasei's joint venture Asian Rare Earth immediately to close its plant in Bukit Merah and remove all radioactive waste and toxic chemicals from the factory.

The ruling ends a seven-year suit brought by eight Bukit Merah villagers against the firm, which was 35% owned by Mitsubishi Kasei. Asian Rare Earth processes monazite to produce yttrium and other rare earth chlorides used in color television screens and other electronic parts. In the process, radioactive thorium is produced as waste, and this waste was virtually dumped in the backyard without any signs or fences to protect the residents. Local residents have suffered cancers, leukaemias, and birth defects, caused by high levels of radioactivity. The ARE case had been dubbed a 'Japanese pollution export' by environmentalists.

This ruling was the first of its kind in which a multinational giant has been ordered to close down because of environmental damage and adverse effects on the local residents. The ruling has been a great shock to the Japanese government as well as the industry. The Ministry of International Trade & Industry immediately announced that they feel deeply regretful over the issue and summoned Mitsubishi Kasei to explain the situation. The Director-General of the Environmental Agency also called in the directors of the company for a briefing. The industry has likewise shown regret, saying, 'when a firm wants to go abroad, it should not only satisfy the local law but also get the acceptance of the local people.'

Two residents of Bukit Merah, Mr. Lau Fong Fatt and Mr. Hew Yoon Tat, came to Tokyo and visited government agencies and Mitsubishi Kasei, in an attempt to persuade the firm not to appeal and to close the plant for good. During their visit, the ARE, contrary to their wishes, filed an appeal on July 23 and applied the next day for a stay of execution of the injunction to stop operation. Mitsubishi Kasei claimed the decision had been made on the Malaysian side alone without the consent of the Tokyo office and made a statement saying that "we cannot help expressing our regret towards these measures taken by the Malaysian side," but "will continue insisting on our basic position," which is that "the plant should not continue operation unless it harmonizes with the local people."

We have yet to see the outcome of the case.

Safety Reviews of Older Reactors to be Conducted

The Ministry of International Trade and Industry on June 22 sent a letter to the electric power companies, instructing them to conduct periodic safety reviews of older reactors which have been in operation for more than 10 years. This is one of a series of measures to prevent severe accidents, employing the most advanced technology to conduct safety checks.

Three reactors are to be surveyed this year: Tsuruga 1 (BWR 357MW), which started operation in 1969, Mihama 1 (PWR 340MW, 1970) and Fukushima I-1 (BWR 460MW, 1970). The plan aims to survey four reactors a year from now on.

Anti-Nuke Mayor Re-Elected

A mayoral election was held on June 28 at Hikigawa Town, Wakayama Prefecture, where Kansai Electric Power Co. is planning to construct several PWR reactors, and an anti-nuke mayor was elected. After the plan to invite nuclear plants to the town was exposed in 1986, a severe conflict ensued and split the town people into two factions. But the people have expressed their opposition to the plan by electing an anti-nuke mayor for the first time four years ago and reelecting the mayor again this time. The opposition candidate in the recent election was a former mayor, who tried to exclude the nuclear issue from the campaign, saying that he would not promote nuclear power. He was not reelected however, as people realized he would go back on his word once in office.

Third Incident at the U-Enrichment Plant

The uranium enrichment plant in Rokkasho, Aomori Prefecture, which only recently went into commercial operation, suspended operation on June 17 due to an electrical fault. It was the third incident in six months including the trial operation period. All three incidents had something to do with the electric circuits, but had different causes. The most recent one is considered to have been caused by a fire in the cables, but the exact cause is still under investigation. The series of incidents has increased the anxiety of local people.

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NUKE INFO TOKYO is a bi-monthly newsletter which aims to provide foreign friends with up-to-date information on the Japanese nuclear industry, as well as on the movements against this industry in Japan. Please write to us for a subscription (subscription rate: supporting subscriber $40/year or ¥5,000/year, subscriber $20/year or ¥3,000/year). The subscription fee should be remitted from a post office to our post office account No:Tokyo 6-185799, HANGENPATU-NEWS by postal money order. We would also appreciate receiving information and newsletters from groups abroad in exchange for this newsletter.

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